Fun with Ferster

(formerly known as 5 with Ferster, but like Diddy, I felt the urge to change the name! ☺)

**Day 1--Linear Equations and Functions**

The following set of problems is intended to reacquaint you with some of the problems from the pre-test that deal with the solution of linear equations, solving formulas, and evaluating linear functions. Sounds impressive, doesn't it! ☺ Relax, take a few minutes, by yourself, or with a friend, and see what you can do with these.

**MULTIPLE CHOICE**

1. Solve the equation for t: .

**A**.  **B**. 

**C.**  **D.** 

2. Solve the equation for m: .

**A**.  **B**. 

**C.**  **D.** 

3. Solve the equation for w: .

**A**.  **B**. 

**C.**  **D.** 

4. Solve the equation .

**A**.  **B**. 

**C.**  **D.** 

5. The equation  has:

**A**. one positive solution only **B**. two positive solutions

**C.** one positive and one negative solution **D.** no real solutions

6. Solve the equation. 

**A**.  **B**. 

**C.**  **D.** no real solutions

**OPEN ENDED**

7. Chase and Bud are dirt bike racers and are good friends. Chase gives Bud an 80 meter head start during a practice run. After  seconds, Bud's distance from the starting line is given by the formula , and Chase's distance from the starting line is given by the formula .

A. Determine each rider's distance from the starting line at .

B. Determine each rider's distance from the starting line at 

C. How far ahead of Chase is Bud after  seconds?

D. Does Bud ever catch up to Chase? If so, after how many seconds? Show your work to justify your answer.

8. Solve the equation: 

9. The formula  represents the swing of a pendulum.  is the time in seconds to swing back and forth, and  is the length of the pendulum in feet.

A. How long does it take for a 3 foot pendulum to swing back and forth? Round your answer to 3 decimal places.

B. Solve the formula above for .

C. Find the length of a pendulum that makes one swing in 2.5 seconds. Round your answer to 3 decimal places.